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CHARLES ELMORE CROPLEY
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IN THE

Supreme Court of the United States

STATE OF WISCONSIN, STATE OF MINNESOTA, STATE OF OHIO, and STATE OF PENNSLVANIA,
Complainants,
vs.
STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO,
Defendants.
STATE OF MISSOURI, STATE OF KENTUCKY, STATE OF TENNESSEE, STATE OF LOUISIANA, STATE OF MISSISSIPPI, and STATE OF ARKANSAS,
Intervening Defendants.
No. ~~7~~ 5 Original.

STATE OF MICHIGAN,
Complainant,
vs.
STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al.,
Defendants.
No. ~~11~~ 8 Original.

STATE OF NEW YORK,
Complainant,
vs.
STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al.,
Defendants.
No. ~~12~~ 9 Original.

SEMI-ANNUAL REPORT OF THE SANITARY DISTRICT OF CHICAGO OF JULY 1, 1931, MADE PURSUANT TO DECREE OF APRIL 21, 1930.

FRED KLEIN CO. 24 PRINTERS, CHICAGO

IN THE

Supreme Court of the United States

NOS. 7, 11 AND 12, ORIGINAL.

OCTOBER TERM, 1929.

STATE OF WISCONSIN, STATE OF MINNESOTA, STATE OF OHIO, and STATE OF PENNSLVANIA, *Complainants,* vs. STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, *Defendants.* STATE OF MISSOURI, STATE OF KENTUCKY, STATE OF TENNESSEE, STATE OF LOUISIANA, STATE OF MISSISSIPPI, and STATE OF ARKANSAS, *Intervening Defendants.*	No. 7, Original.
STATE OF MICHIGAN, *Complainant,* vs. STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al., *Defendants.*	No. 11, Original.
STATE OF NEW YORK, *Complainant,* vs. STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al., *Defendants.*	No. 12, Original.

SEMI-ANNUAL REPORT OF THE SANITARY DISTRICT OF CHICAGO OF JULY 1, 1931, MADE PURSUANT TO DECREE OF APRIL 21, 1930.

Pursuant to provisions of paragraph numbered 5 of the Decree in the above entitled causes, entered on April 21, 1930, the Defendant, The Sanitary District of Chicago, hereby makes its semi-annual report of July 1, 1931, as follows:

CONSTRUCTION PROGRAM.

In the semi-annual report of January 1, 1931, the status of the sewage treatment construction program involved in this case was stated to be on December 1, 1930, as follows:

TABLE 1.

COMPLETED WORK AS OF DECEMBER 1, 1930.

Des Plaines River Project	$ 4,126,331.02	
Calumet Project	19,712,791.73	
North Side Project	36,678,541.07	
West Side Project	33,753,071.82	
Southwest Side Project	233,879.99	
Miscellaneous Plants and Sewers	594,193.47	
Chicago River Controlling Works	53,415.74	$ 95,152,224.84

TABLE 2.

FUTURE WORK AFTER DECEMBER 1, 1930.

Des Plaines River Project	$ 4,093,988.51	
Calumet Project	19,937,130.29	
North Side Project	5,175,970.36	
West Side Project	60,759,862.97	
Southwest Side Project	70,583,120.01	
Miscellaneous Plants and Sewers	9,908,404.59	
Chicago River Controlling Works	3,946,584.26	$174,405,060.99

During the interim of six months between the date of the last report and the present report, work was prosecuted diligently on the design of the Calumet and West Side Projects. Some work was done on the design of the extension to the North Side Treatment Works.

Des Plaines River Project—There has been no change in the status of the Des Plaines River Project since the time of the last report. The treatment plant is still being operated for the treatment of the sewage of approximately 25,000 people and for conducting experiments and tests on a working scale.

Calumet Project—As was stated in the last report, the suit for the condemnation of sufficient land for the site

for the additions to the Calumet Sewage Treatment Works was set for trial in January, 1931. After various negotiations with the defendant property owners, the original ordinance for this site (passed by the Board of Trustees of the Sanitary District December 26, 1929) was amended on February 5, 1931. The original suit in the County Court was dismissed and a new petition filed in the Circuit Court of Cook County in March, 1931. The case came up for trial on June 22, 1931, and an agreement was reached which will result in the final acquisition of the site of approximately 225 acres on or before July 16, 1931.

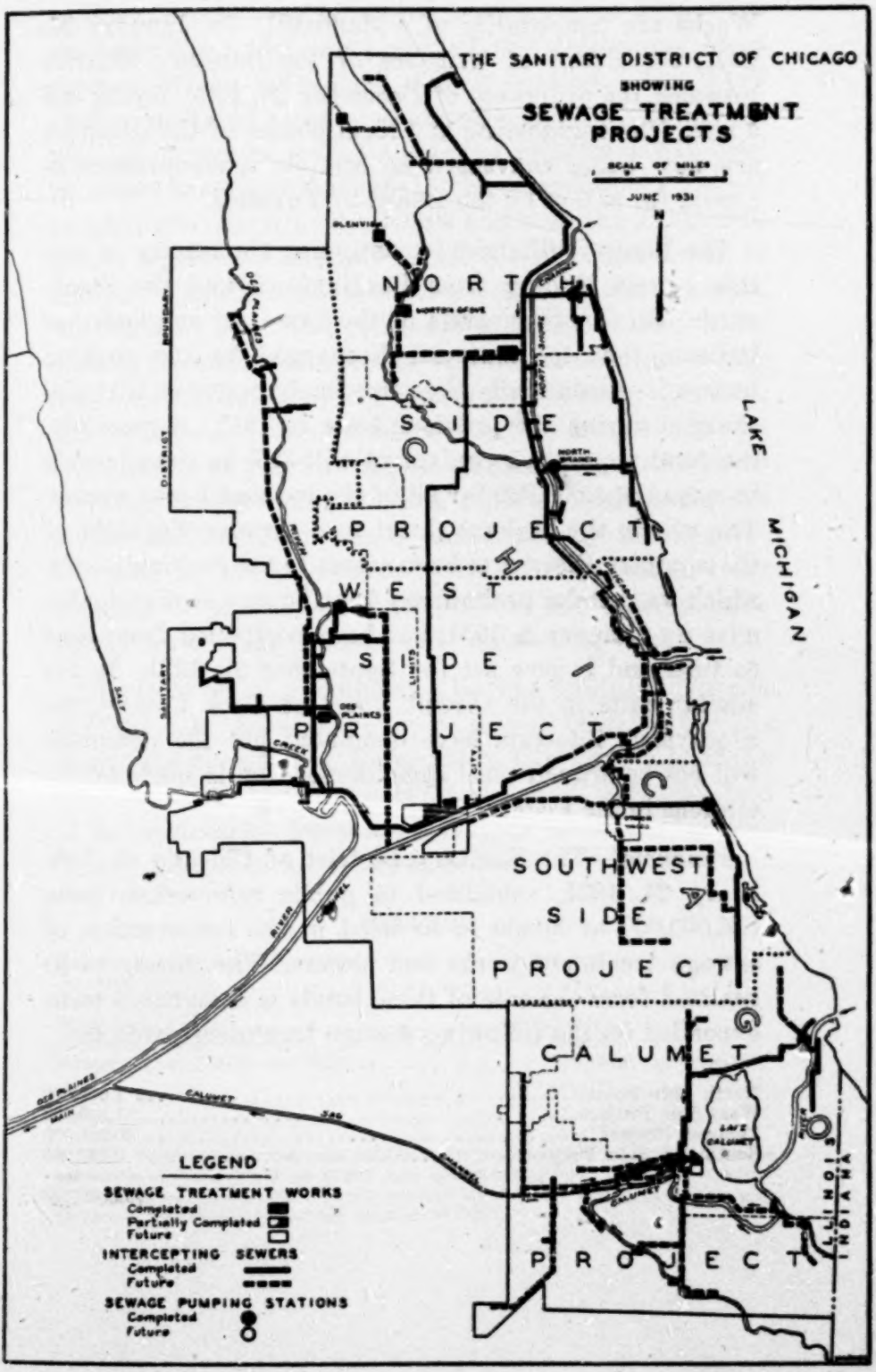
Plans and specifications have been prepared for the Calumet pumping station and blower house and the work advertised for bids on June 25, 1931. Bids will be received on July 16, 1931, and the actual work started on or before August 1, 1931. Plans and specifications have been practically completed for the aeration and final settling tanks for this project and it is expected that bids will be taken on this contract on August 6, 1931. Contracts were let in May, 1931, for the main sewage pumps and return sludge pumps, for blowers, and for the necessary electrical equipment to operate this machinery.

North Side Project—The North Side Treatment Works have been in full operation since August, 1930. During the past six months some work was done on the design of additional preliminary settling tanks and final settling tanks, made necessary because of the unexpectedly rapid increase in population on the area of the North Side Project.

West Side Project—Construction work was continued on the West Side Treatment Works. The sludge disposal

railroad was completed and placed in operation in May, 1931. A contract for the construction of a third battery of Imhoff tanks was awarded in February, 1931. Work was started in March, 1931, and good progress is now being made on the placing of concrete in this battery. A contract was awarded in March, 1931, for the construction of two large heated digestion tanks and two sludge storage tanks providing additional sludge storage and digestion capacity and so that experiments on a working scale could be conducted on separate sludge digestion. This plant is now about 90 per cent completed and operations are planned to start on July 20, 1931. The 25 additional standard gauge dump cars mentioned in the last report were completed and delivered in May, 1931. A contract was awarded for the construction of an additional sludge bed cleaning machine in February, 1931. This machine is now being erected and will be ready for operation by August 1, 1931. A contract for a short section of the Salt Creek sewer was awarded in March, 1931, and the work will be finished before September 1, 1931. The construction of the contract Section 3 of the West Side Sewer, has been continued, although the contractor was delayed for more than a month by a disastrous fire occurring April 14, 1931, which caused the loss of several lives. Plans and specifications for contract Section 4 of the West Side Sewer have been ready since March, 1931, but the letting of this work has been held up because of unacquired right of way. Progress is being made on the design of the sewer to intercept the sewage of the "Loop" District and it is expected that this contract will be ready for advertisement by September, 1931. Batteries A and B of the Imhoff tanks are now operating and treating the sewage of all the area west of Kedzie Avenue.

Southwest Side Project—Negotiations for the acquisition of a site for the Southwest Side Sewage Treatment


THE SANITARY DISTRICT OF CHICAGO
SHOWING
SEWAGE TREATMENT PROJECTS
SCALE OF MILES
JUNE 1931
N
NORTH SIDE PROJECT
WEST SIDE PROJECT
SOUTHWEST SIDE PROJECT
CALUMET PROJECT
LAKE MICHIGAN
DES PLAINES
CALUMET
SAG
CHANNEL
LAKE CALUMET
ILLINOIS
LEGEND
SEWAGE TREATMENT WORKS
Completed
Partially Completed
Future
INTERCEPTING SEWERS
Completed
Future
SEWAGE PUMPING STATIONS
Completed
Future

Works are temporarily at a standstill. On January 26, 1931, the Board of Trustees of the Sanitary District repealed the ordinance of December 26, 1929, laying out a site. The engineering and legal phases of the situation are now being canvassed to compile a comprehensive report for action by the Board of Trustees.

The Sanitary District is continuing the testing of certain sewers leading from Packingtown and the Stockyards. So far, the results of the gaugings and analyses indicate that the material discharged by the packing houses is substantially the same in character as that discharged during the previous tests in 1917. Apparently, the total population equivalent will still be considerably in excess of 1,000,000 for all of the packing house wastes. The suit in the Federal Court to determine the right of the Sanitary District to have access to the packing plants, which was set for preliminary hearing on a motion to dismiss on January 8, 1931, has been postponed from time to time and is now set for September 21, 1931. In the similar suits in the Circuit Court of Cook County, the Stockyards interests have demurred but the demurrer will not be argued until some disposition is made of the motions in the Federal Court.

Financial—The Sanitary District of Chicago on February 24, 1931, submitted to public referendum some $36,000,000 of bonds to be used in the construction of sewage treatment works and sewers. The money to be realized from the sale of these bonds is designated to be expended on the following sewage treatment projects:

North Side Project	$ 1,600,000
West Side Project	11,000,000
Calumet Project	20,300,000
Southwest Side Project	3,100,000
	$36,000,000

These bonds were approved by the voters by a large majority but a tax payer started suit petitioning for a recount of the votes cast at this election. The Trial Judge appointed a commissioner to supervise the recount and 188 precincts out of a total of approximately 3400 precincts have been recounted. The commissioner has yet to make his report to the Judge and then the Judge will decide whether a recount of all the precincts is to be allowed. Since this would involve a delay of some months, the Sanitary District has caused to be introduced in the Illinois Legislature an Act to validate these bonds which had been approved by the voters on February 24, 1931. This bill passed the Illinois State Legislature in June, 1931, and is now before the Governor. Of the $9,455,000 of bonds mentioned in the last report as remaining out of the $27,000,000 of bonds authorized by the General assembly in 1929 to be issued without referendum, some $535,000 of bonds have been offered for sale to raise money for current contract and engineering work.

The total work accomplished by The Sanitary District of Chicago in the construction of sewage tre tment works during the period from December 1, 1930 (the date of the summaries for the last report), and June 1, 1931 (the date of the summaries for this report), as measured by construction expenditures, was as follows:

TABLE 3.

Des Plaines River Project	$ 22,846.61	
Calumet Project	117,404.11	
North Side Project	109,131.75	
West Side Project	798,880.02	
Southwest Side Project	30,996.26	
Miscellaneous Plants and Sewers	110.78	$ 1,079,369.53*

*This figure represents only actual construction work in the period. As a matter of fact, work on plans and specifications has progressed satisfactorily, and a very much larger amount of new work will be under construction during the latter six months of 1931.

By adding the various items indicated in Table 3 to corresponding items in Table 1 and subtracting them from corresponding items in Table 2, the status of the sewage treatment construction program on June 1, 1931, is as follows:

TABLE 4.

COMPLETED WORK AS OF JUNE 1, 1931.

Des Plaines River Project	$ 4,149,177.63	
Calumet Project	19,830,195.84	
North Side Project	36,787,672.82	
West Side Project	34,551,951.84	
Southwest Side Project	264,876.25	
Miscellaneous Plants and Sewers	594,304.25	
Chicago River Controlling Works	53,415.74	$ 96,231,594.37

TABLE 5.

FUTURE WORK AFTER JUNE 1, 1931.

Des Plaines River Project	$ 4,071,141.90	
Calumet Project	19,819,726.18	
North Side Project	5,066,838.61	
West Side Project	59,960,982.95	
Southwest Side Project	70,552,123.75	
Miscellaneous Plants and Sewers	9,908,293.81	
Chicago River Controlling Works	3,946,584.26	$173,325,691.46

SEWAGE TREATMENT.

The population of The Sanitary District of Chicago, as of July 1, 1931, is about 3,982,000, according to estimates made from the figures of the 1930 census. The industrial wastes in the Sanitary District are assumed as equivalent to 1,708,000 additional persons. Hence the total population and industrial wastes equivalent amount to 5,690,000. This figure includes the Corn Products wastes, equivalent to the sewage of 393,000 persons, which wastes have been greatly reduced as a result of certain experimental work initiated by the Sanitary District.

The 1930 total population, and industrial waste equivalent, as above indicated, are estimated as 5,690,000. Up to date, the Sanitary District has assumed that sewage treatment could produce an annual average of 85 per cent purification. Hence, so called complete treatment for the total July 1, 1931, population and industrial wastes equivalent would equal the 100 per cent treatment of the sewage of 4,836,000, which is 85 per cent of 5,690,000.

The expenditures for sewage treatment have been indicated in Tables 1, 3 and 4. The amounts of actual sewage treatment in operation on December 25, 1930 (as of the time of the last report to the Supreme Court) and at the present time are shown in Tables 6 and 7, following:

TABLE 6.

ACTUAL SEWAGE TREATMENT IN OPERATION AS OF DECEMBER 25, 1930.

Treatment Works	Population Equivalent	Percentage Treatment	Treatment 100 Per Cent Basis
Des Plaines	25,000	85	21,000
Calumet:			
(Complete treatment)	15,000	85	13,000
(Sedimentation)	195,000	33⅓	65,000
North Side	980,000	85	833,000
West Side (Sedimentation)	510,000	33⅓	170,000
Miscellaneous (Morton Grove, Glenview, Northbrook)	6,000	85	5,000
Corn Products (Reduction)	422,000		366,000
Total	2,153,000		1,473,000

TABLE 7.

ACTUAL SEWAGE TREATMENT IN OPERATION AS OF JUNE 25, 1931.

Treatment Works	Population Equivalent	Percentage Treatment	Treatment 100 Per Cent Basis
Des Plaines	25,000	85	21,000
Calumet:			
(Complete treatment)	15,000	85	13,000
(Sedimentation)	190,000	33⅓	63,000
North Side	1,023,000	85	870,000
West Side (Sedimentation)	521,000	33⅓	174,000
Miscellaneous (Morton Grove, Glenview, Northbrook)	6,000	85	5,000
Corn Products (Reduction)	393,000		309,000
Total	2,173,000		1,455,000

The above Table 7 shows an increase in the sewage treatment in operation at the North Side and West Side Plants due to the increase in population since the time of the last report. The decrease in treatment shown for the Calumet Plant is due to a revision of the population estimates for that project. The decrease in the Corn Products Project since the time of the last report is due to the business depression which has caused a material reduc-

tion in the amount of corn ground at this plant, as well as to the fact that temporarily certain wastes have been discharged into the channel during the progress of experiments at the plant, made at the request of the Corn Products Company.

The extent of the operation of sewage treatment plants at the present time is equal to the 100 per cent treatment of the sewage of 1,455,000 out of 4,836,000 persons, which would be the present possible 100 per cent treatment if the sewage of the total population and industrial wastes equivalent of 5,690,000 was being treated. This indicates the treatment of 30 per cent of the total sewage within the Sanitary District. This is a percentage slightly smaller than was indicated in the last report to the Supreme Court and is due primarily to present temporary conditions at the Corn Products plant.

DIVERSION OF WATER.

As was stated in the last report to the Supreme Court, the net diversion of water from Lake Michigan from January 1 to July 1, 1930, averaged 6819 cubic feet per second. The domestic pumpage of the Chicago metropolitan area during this period averaged 1678 cubic feet per second; and the total flow from the Main Channel at Lockport averaged 8497 cubic feet per second.

Diversion of water from Lake Michigan by the Sanitary District of Chicago since July 1, 1930, has been made in accordance with a Permit from the Secretary of War, dated June 26, 1930, which authorized the diversion of water as specified in the Decree of the Supreme Court, handed down April 21, 1930. This limits the net diversion to an annual average of not more than 6500 cubic feet per second up to December 1, 1935. The average monthly diversion as made under this Permit from July 1 to December 31, 1930, is indicated in the table following:

Month 1930	Total Flow From Main Channel At Lockport C.F.S.	Inflow From Willow Springs Spillway C.F.S.	Domestic Pumpage Chicago Metropolitan Area C.F.S.	Net Diversion From Lake Michigan C.F.S.
July	8195	0	1825	6370
August	10370	0	1815	8555
September	8915	0	1765	7150
October	7420	0	1680	5740
November	7160	0	1615	5545
December	7235	0	1615	5620
Average	8216	0	1719	6497

The average monthly diversion as made under the above mentioned Permit from January 1, 1931, to June

15, 1931, is indicated in the table following:

Month 1931	Total Flow From Main Channel At Lockport C.F.S.	Inflow From Willow Springs Spillway C.F.S.	Domestic Pumpage Chicago Metropolitan Area C.F.S.	Net Diversion From Lake Michigan C.F.S.
January	8120	0	1605	6515
February	7655	0	1600	6055
March	7575	0	1605	5970
April	7565	0	1610	5955
May	7990	0	1640	6350
June 1 to 15.....	8390	0	1695	6695
Average Jan. 1- June 15	7840	0	1620	6220

Respectfully submitted,

THE SANITARY DISTRICT OF CHICAGO,

By THOMAS J. BOWLER,
Its President.

EDWARD J. KELLY,
Its Chief Engineer.

WILLIAM ROTHMANN,
Its Attorney.

Attest:

JAMES J. SULLIVAN,
Clerk.